

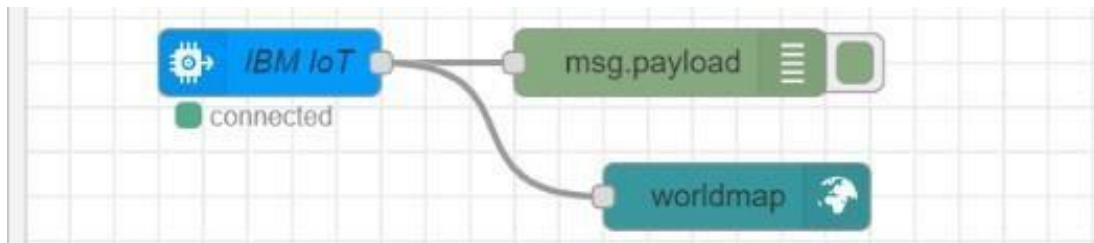
## SPRINT-4

Date	19 NOVEMBER 2022
Team ID	PNT2022TMID37262
Project Name	SMART SOLUTIONS FOR RAILWAYS

### PROCEDURE:

- Step1: Develop a node red application for GPS
- Step2: Develop a python code for GPS
- Step3: Run the program
- Step4: Train location will be displayed
- Step5: Create a node red for wakeup call and E-catering service

### NODE RED FLOW:



### PYTHON CODE FOR GPS:

```
import wiotp.sdk.device

import time import random

myConfig = {
    "identity": {
        "orgId": "dks66l",
        "typeId": "Sudha",
        "deviceId": "45"
    },
    "auth": {
        "token": "sudha2002@"
    }
}
```

```
}
```

```
def myCommandCallback (cmd):      print ("Message received from IBM IoT Platform:
```

```
%s" % cmd.data['command'])
```

```
    m=cmd.data['command']
```

```
client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None) client.connect()
```

```
def pub (data):
```

```
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPublish=None)
```

```
    print ("Published data Successfully: %s", myData)
```

```
while True:
```

```
    myData={'name': 'Train1', 'lat':13.08363 , 'lon': 80.27080}
```

```
    pub (myData)          time.sleep (2)
```

```
    myData={'name': 'Train2', 'lat': 12.40797, 'lon': 79.81410}
```

```
    pub (myData)          time.sleep (2)
```

```
myData={'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
```

```
    pub(myData)
```

```
    time.sleep(6)
```

```
    myData={'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
```

```
    pub (myData)          time.sleep (6)
```

```
myData={'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}
```

```
    pub (myData)
```

```
time.sleep (6)
```

```
myData={'name': 'Train1', 'lat':
```

```
11.32207, 'lon': 77.61684}
```

```
pub (myData)          time.sleep (6)
```

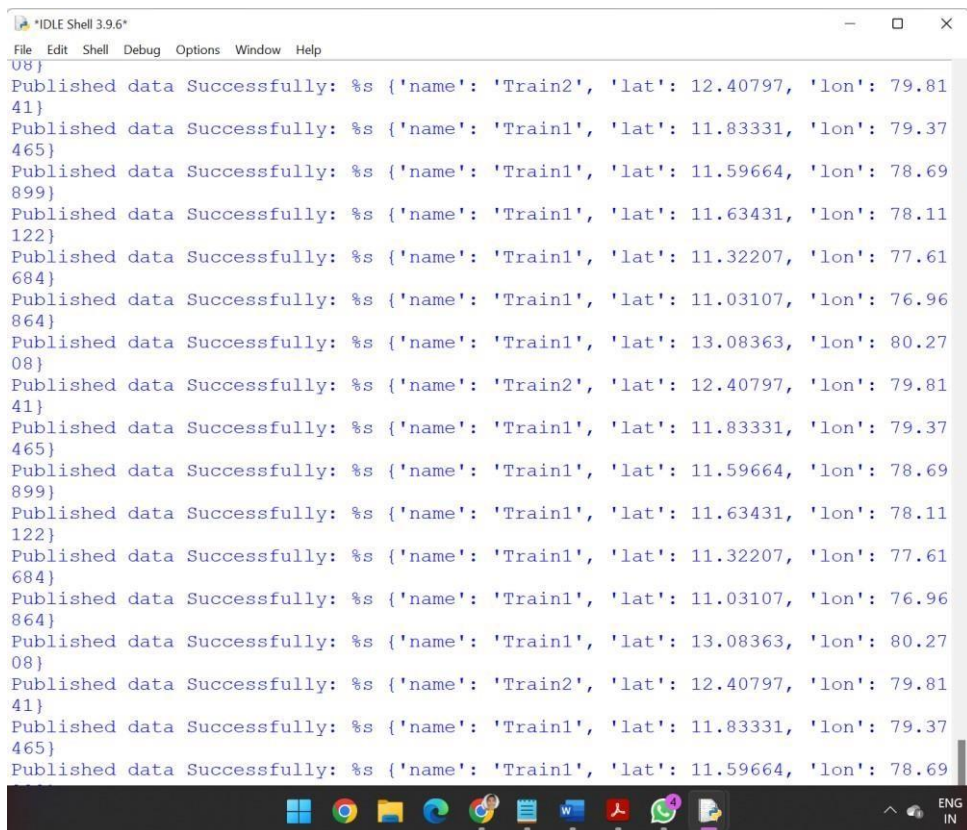
```
myData={'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
```

```
pub (myData)  time.sleep (6)          client.commandCallback =
```

```
myCommandCallback
```

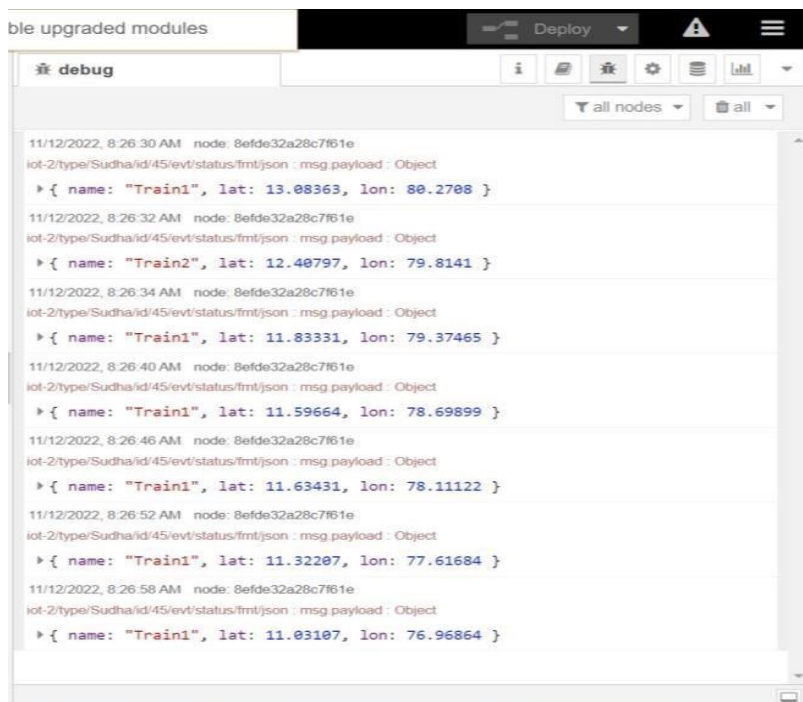
```
client.disconnect ()
```

## PYTHON CODE OUTPUT:

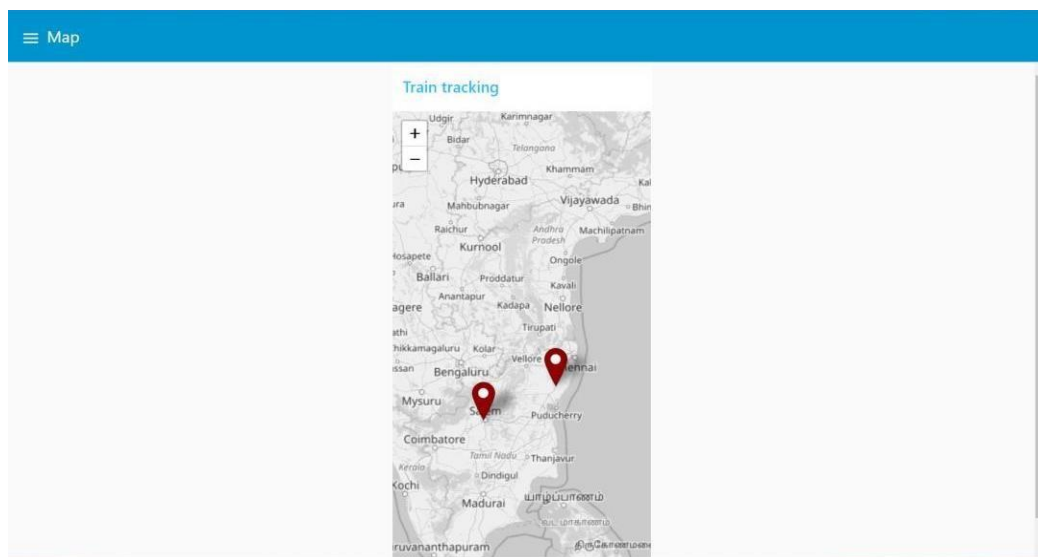
A screenshot of the IDLE Shell 3.9.6 window. The window title is "IDLE Shell 3.9.6". The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell shows a series of "Published data Successfully:" messages, each followed by a JSON object containing 'name', 'lat', and 'lon' values. The messages are repeated 15 times. The last message is "Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}". The window is maximized, and the Windows taskbar is visible at the bottom with various application icons and the system clock showing 10:10 AM on 10/10/2023.

```
U8}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.2708}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.63431, 'lon': 78.11122}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.32207, 'lon': 77.61684}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.03107, 'lon': 76.96864}
Published data Successfully: %s {'name': 'Train1', 'lat': 13.08363, 'lon': 80.2708}
Published data Successfully: %s {'name': 'Train2', 'lat': 12.40797, 'lon': 79.8141}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.83331, 'lon': 79.37465}
Published data Successfully: %s {'name': 'Train1', 'lat': 11.59664, 'lon': 78.69899}
```

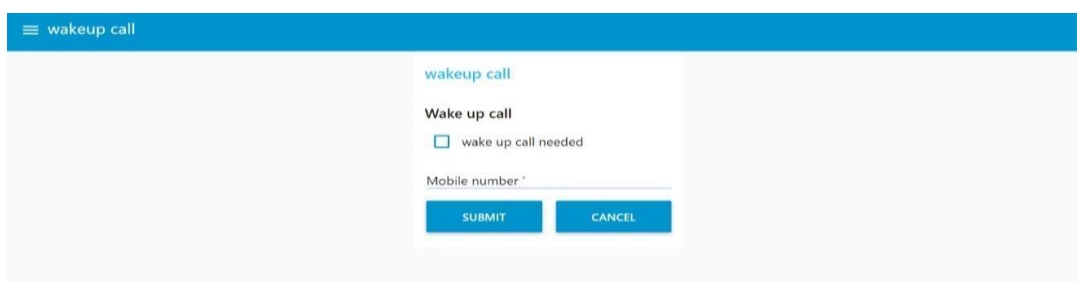
**NODE RED OUTPUT:**



## TRAIN TRACKING :



### NODE RED CONNECTION FOR WAKEUP CALL AND E-CATERING SERVICE:



FOOD

Food

☒ VEG

☐ NON-VEG

SUBMIT

CANCEL